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ABSTRACT

The Teenage Mothers Project (TMP) in Jamaica, seeks to act as an intervention for the teenage mothers involved, giving them the opportunity to complete their schooling; develop practical, marketable skills; and learn to be better mothers. While mothers attend the center, their children attend a stimulating, nurturing day care, supervised by trained caregivers. This aspect of the program, aside from giving mothers time for personal development, was designed to meet the children's needs and to support positive outcomes into succeeding generations. An assessment of developmental outcomes for TMP children was conducted using the McCarthy Scales of Children's Abilities (MSCA). The test measures verbal and perceptual performance, and quantitative, general cognitive, memory, and motor skills. TMP children and a control group were first tested in 1989, then again in 1990 and 1991 after 2 years of school. Data indicated that the program's philosophy of early stimulation and a favorable learning environment was successful in providing children with developmental advantages that have long-term effects on their learning capabilities. (EV)

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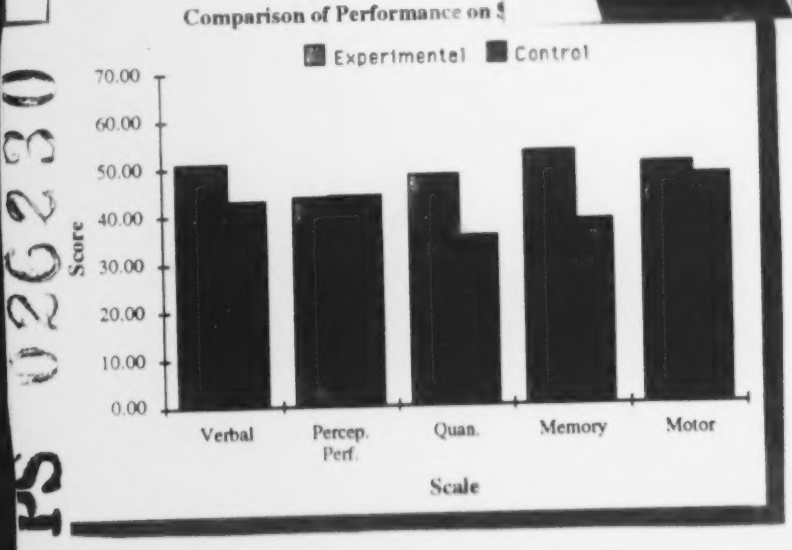
Teens' Children: Charting their progress through research



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Teenage Mothers Project

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Teens' Children: Charting their progress through research

THE TEENAGE MOTHERS PROJECT

INTRODUCTION

Over fifty per cent of Clarendon's population is under the age of 30, an indication of the youthful average age at which mothers in that parish bear children, and the multiple numbers of those births. Statistics show girls not only becoming pregnant as teenagers, but also having one to three more children by the age of nineteen. In addition, according to the labour force survey of 1992 (Statistical Institute of Jamaica) in October of that year, women between the ages of 14 and 19 constituted 51.3 per cent of the unemployed population.

Many of Clarendon's young mothers, therefore, do not find work and are unable to support themselves and their families. Facing the socially and economically paralyzing stigma of out-of-wedlock pregnancies, the lives of these young women take a downward spiral. They struggle with poverty, typically for the remainder of their lives. Their children are often neglected and therefore unable to perform properly in school.

The children of teenage mothers typically suffer from poor self-image. Trapped by their circumstances, they become sexually active at an early age and repeat the cycle of their mothers' lives. Intervention designed to break this cycle must therefore address the needs, not only of the mothers, but of their children.

PROJECT BEGINNINGS

It became apparent to policy makers that increasing percentages of teenage pregnancies in Clarendon were having catastrophic economic consequences for the parish. The Teenage Mothers Project (TMP) grew out of a critical need to decrease the number and frequency of teenage pregnancies. The project, which began in May Pen in 1986, is the product of collaboration between the Government of Jamaica and the University of West Indies, Mona, and is supported by the Bernard van Leer Foundation.

The TMP, which began in May Pen and now has a satellite campus in Old Harbour, addresses the problem of teenage pregnancies by focusing on the development and training of the teenage mother. It seeks not only to lessen the likelihood of repeat pregnancies, but also to intervene in the cycle of teenage pregnancies that continues from generation to generation.

By the third year of the TMP programme, in 1989, 125 mothers were registered. The programme is now firmly established in Clarendon[1] and is a model for the rehabilitation of teenage mothers and the care of the teenagers' babies, and also a model of a preventative programme for teenagers still in the school system.

TMP seeks to act as intervention for the teenage mothers involved, giving them the opportunity to complete their schooling, develop practical, marketable skills and learn to be better mothers. At the same time as the mothers attend the Centre, their children grow in a stimulating, nurturing environment, supervised by trained care-givers. This is not, however, simply a means of freeing the mothers to concentrate on their personal development. It is a deliberately included aspect of the TMP programme, designed to meet the needs of the children and

programme, designed to meet the needs of the children and reverse the pattern that led to the continuation of the problem into succeeding generations.

PROJECT STRUCTURE

Staffing

The Bernard van Leer Centre for Early Childhood Education (CECE) of the University of the West Indies is responsible for direction and operation of the Teenage Mothers Project. TMP consists of a director from the CECE, staff members at the Centre, and care-givers and instructors from the community. Various courses are taught by the staff members and instructors.

All care-givers (also known as day care assistants) are trained at the Centre, in bi-weekly sessions, through on-the-spot supervision and in summer workshops. Care-givers are responsible for the upkeep of the Centre's facilities and for maintaining a hygienic and attractive environment. While the mothers attend academic and personal development sessions, the care-givers supervise the children. The Centre assigns no more than six children to each care-giver. A strong emphasis is placed on a quality, interactive process between care-givers and children, and personalized care for each child.

Climate

The atmosphere at the Centre is typically one of purposeful warmth. At approximately nine o'clock, the young mothers arrive dressed in white blouses and navy blue skirts. After a long, dusty bus ride, they are individually greeted by a care-

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giver, who engages them in polite and genuinely caring conversation about themselves or their child. In this way, care-givers communicate concern for the individual mothers while enhancing the mothers' social skills.

The girls are responsible for their babies and interact with them throughout the day, whether breast-feeding or cuddling the baby when the activity makes it possible, or soothing a crying baby. The children, however, spend the majority of their time in the Centre's day care.

The babies are cared for in an area where there is an unusual mix of classroom and nursery, with several different activities taking place simultaneously. While the girls meet in a separate section of the Centre, the day's schedule allows for the older children to have "nature walks" with the care-givers or their mothers. The day ends as it began, with care-givers chatting and sharing with the girls about their babies, and offering suggestions and advice.

Schedule and curriculum

At TMP the regular daily schedule runs from nine o'clock in the morning to three o'clock in the afternoon, Monday through Thursday, and focuses on specific curricula for the development of the mother. A crucial area of the programme is geared towards her academic growth. Academic Skills sessions are a part of each girl's daily schedule.

In addition, there are sessions on Practical Skills (including cooking, gardening and sewing), Family Life Education (involving counselling to improve the girls' self-esteem), and Child Care Skills.

TMP's integrative approach includes the Home Visiting Programme, which takes place on Friday. Here home and Centre work together for the benefit of mother and baby. Care-givers act as counsellors and parent educators, reinforcing the skills taught in the classroom.

THE DAY CARE COMPONENT

The day care unit of the TMP in May Pen was established to provide nurturing for the children of the teenage mothers participating in the programme. The Centre aims for its day care unit to be cost-effective and personal, in contrast to institutionalized or custodial care. Originally a single unit geared towards the care of young babies, six weeks and older, the day care aspect of the programme now accommodates three groups: crib babies, toddlers, and run-abouts.

The unit frees the mother to rebuild her life and develop her career, secure in the knowledge that her child is being properly cared for. But it is designed to do much more than that.

Features

Based on the premise that children will develop on their own if the right material and a favourable environment are provided, the day care unit's environment is designed to encourage the development process, through brightly painted cribs and toys, vibrant posters on colourful walls and mobiles hanging from the ceiling.

Because of the different developmental needs of each group, the Centre varies its programme according to the children's growth stages. This is evident in all aspects of the daily ritual. For example, while all babies are given a daily bath, bath time is conducted differently for the various

groups of children. For crib babies, care-givers name the items and describe the actions, enhancing the children's language development. Eye contact and voice modulation in lively conversation also serve to stimulate the babies. The toddlers and run-abouts participate more actively in their bath time. They help the care-givers in undressing them. Constant praise from the care-givers helps the young children to develop self-confidence.

The day care centre, therefore, serves both to teach the teenage mother the elements of proper child care and to provide a nurturing, positive environment for the child. Because of the specialized training given to each child throughout early childhood, the final product of the TMP's child care component is expected to be a developmentally advanced child.

Orientation towards research

The TMP has been research-oriented from its very inception. Feedback from various evaluations guided the programme's direction. The day care programme was designed with the hope that a longitudinal study would be done on the children, in order to supply information on such issues as the relationship between early upbringing and later schooling.

The day care unit, particularly, was structured to facilitate the collection of empirical data. From the beginning, the stage was set for a comparative study. The babies who were registered at the Centre's inception in 1986 are those participating in the present study. As soon as the babies and their mothers were registered, the hospital and clinics in the vicinity were visited to find a "match" for each baby: a baby born at about the same time

to a young mother from a similar socio-economic background, but not enrolled in the TMP. These "matches" formed the control group for the study.

To confirm that their stay in the TMP day care programme had positively affected the children's development (particularly their cognitive development) and had given them a better chance at success in school, the programme of testing using the McCarthy Scales of Children's Abilities (MSCA), was initiated in 1989. The MSCA measures verbal and perceptual performance, quantitative, general cognitive, memory and motor skills.

At that time, the TMP group and the control group children were tested, just before entering basic school, to determine how much they had progressed. The TMP children, along with those in the control group, were tested again in 1990[2] at the end of the first year of basic school. Both groups were tested for a third time [3] in the following year. In each instance, TMP children performed better than the control group in all areas tested.

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MCCARTHY SCALES OF CHILDREN'S ABILITIES (MSCA)

INTRODUCTION

The MSCA has been described as "among the best of available broad-based diagnostic instruments for use with pre-school children".[4] It comprises a battery of 18 separate tests which are designed for children from 2 1/2 to 8 1/2 years. The test was devised in order to meet the need for a single instrument which could be used to "determine their [children's] general intellectual level as well as their strengths and weaknesses in important abilities."[5]

The content of the tests is suitable for children of both sexes, and from diverse ethnic, regional and socio-economic groups. The materials and questions used in the tests are game-like, non-threatening in character and have the capacity to maintain preschoolers' attention. Within the test, non-verbal items are presented before items requiring speech so that children have some time to "warm up".

The tests are administered at one or two sittings which are not more than one week apart. Test administration time is between 60 and 90 minutes. Some of the individual tests are discontinued if four consecutive failures are recorded; others are age weighted so that older children start at a higher level.

These tests, which assess children's ability in a variety of areas, have been grouped into six overlapping scales: Verbal, Perceptual-Performance, Quantitative, General Cognitive, Memory, and Motor. The first three scales, taken together, form the fourth

scale: General Cognitive. The tests for the Memory Scale are also included on the General Cognitive scale. Two of the five tests used for the Motor Scale are included on the General Cognitive Scale; the other three are not included because they are measures of gross motor co-ordination.

Raw scores, based on particular subsets of items, are calculated for five areas: Verbal, Perceptual-Performance, Quantitative, Memory, and Motor. The first three scores, added together, yield a score for the General Cognitive area. These raw scores are then converted to scale indices (standardized scores) using a conversion table which accommodates varying age ranges.

THE INDIVIDUAL SCALES [6]

Verbal These tests examine a child's ability to express himself verbally. Children are required to give brief answers to a variety of items which test mental processes such as short- and long-term thinking, divergent thinking, and deductive reasoning. They work at tasks which test their pictorial memory, word knowledge, verbal memory, verbal fluency, and their ability to supply answers in opposite analogies.

Perceptual-Performance These are non-verbal tests where children manipulate materials to carry out some game-like tasks which assess their reasoning ability. They perform tasks such as block building, puzzle solving, drawing designs, and right-left orientation.

Quantitative This scale assesses children's numerical ability and their understanding of quantitative vocabulary, by utilizing items with high interest content. Here children answer number questions, respond to items which rely on numerical memory, and do counting and sorting.

General Cognitive Comprised of the test contents of the first three scales, this scale measures children's overall cognitive functioning. Of the 18 tests in the MSCA, only those three involving gross motor co-ordination are not represented in this scale. Children's General Cognitive Index (GCI) indicates their cognitive level in relation to others of their chronological age.

Memory Tests in this scale measure children's short-term memory. The tasks comprise items on pictorial memory, tapping sequence, verbal memory, and numerical memory. Some tasks, such as the pictorial memory and tapping sequence, present children simultaneously with auditory and visual stimuli, while the verbal and numerical memory tasks provide only auditory stimuli. Each of these tests also appears on the first three scales.

Motor Children are asked to perform gross and fine motor tasks in order to assess their co-ordination. Tests in this scale comprise three gross motor tests: Leg Co-ordination, Arm Co-ordination, and Imitative Action. The other two tests – Draw-A-Design and Draw-A-Child – assess fine motor co-ordination, and have a strong cognitive component.

PROCEDURES FOR TESTING

The tests were administered each year by field workers at the TMP in May Pen. The testing covered a period of approximately two months. Testing of each child was completed in one or at most two sessions. If a second session was necessary, it was scheduled soon after the first.

Furniture in the testing room included a child-sized chair, and a table which was low enough for a child to comfortably work on. Although this was more difficult to achieve for children tested off-site, a concentrated effort was made to ensure that these conditions were the same for each session.

Great pains were taken in succeeding years to track down the members of the control (non-TMP) group used in the 1989 testing, as well as all those who were in the experimental (TMP) group. Locating the control group members presented a particular challenge as these were children of parents who had no link with the TMP. Remarkably, in both 1990 and 1991, *all* of the

members of the control group were found and re-tested, along with *all* of the members of the experimental group. Full data sets for these testings, as well as the first in 1989, are included in earlier TMP research reports.[7]

The relative performance of experimental and control groups is discussed in the following chapter. Categories of performance correspond to the different scales on the McCarthy test described above.

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RESEARCH RESULTS

COMPARATIVE PERFORMANCE OF TMP CHILDREN

Table 1 sets out the average performance over the years 1989 to 1991, of both experimental (TMP children) and control groups, on various sub-scales of the McCarthy test.[8] As was expected, the mean scores of the experimental group are, in all cases, higher than those of the control group. But as often happens in statistical descriptions, aggregation hides a very important fact. The gains displayed by the experimental group over the control group were not always at that average level over the three years.

The table indicates a large drop in the middle year of testing – 1990, the year that the children first began formal education. The decrement in the performance of the experimental group was attributed to the adjustment that they had to face. This temporary decline at the start of basic school parallels a phenomenon previously reported in ECE research, where sustainability of gains made through intervention is jeopardized when the project children enter a new educational environment.

The table also reveals, however, that a strong recovery was made the following year, when all the scores again showed a marked superiority over those of the control group children. The performance of the TMP children is all the more remarkable then, and their recovery shows the robustness of the gains derived from the years in the project.

Table 1

1989-91 Scale Index Scores

Experimental vs. Control

Scale	Year	Exper.	Control
VERBAL	1989	51.23	43.23
	1990	*52.15*	*46.85*
	1991	66.23	52.77
	MEAN	**56.54**	**47.62**
PERCEP-PERF.	1989	44.00	44.08
	1990	*51.00*	*50.31*
	1991	62.62	54.00
	MEAN	**52.54**	**49.46**
QUANTI-TATIVE	1989	48.31	35.62
	1990	*45.69*	*44.46*
	1991	49.08	41.15
	MEAN	**47.69**	**40.41**
MEMORY	1989	53.08	38.54
	1990	*47.38*	*44.85*
	1991	51.38	42.77
	MEAN	**50.61**	**42.05**
MOTOR	1989	50.31	48.00
	1990	*50.00*	*51.38*
	1991	61.15	56.77
	MEAN	**53.82**	**52.05**

RATINGS OF OVERALL PERFORMANCE

The mean for the scale indices in the five main areas was standardized at 50, with a standard deviation (SD) of 10. The mean for the General Cognitive Index was standardized at 100.

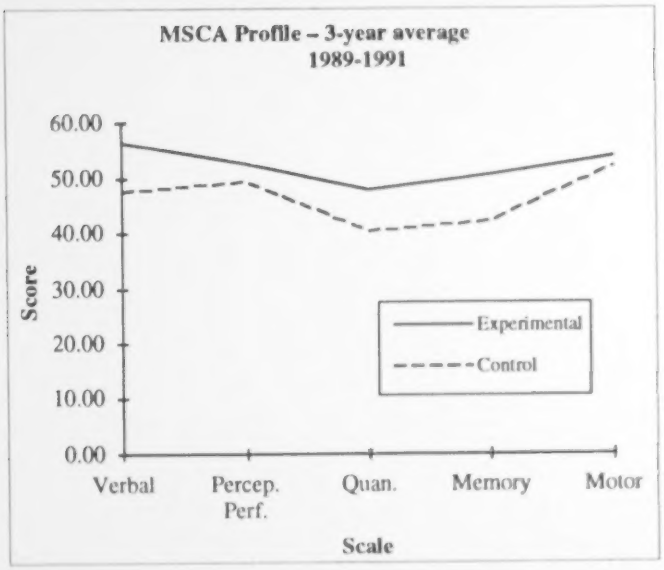


Diagram 1

Experimental (TMP) Group

Average Verbal, Motor and Perceptual-Performance scores for this group were above the mean; Memory scores were at the mean, while Quantitative scores were below the mean, but only by a small amount. On the General Cognitive Index the experimental group scored above the mean. In 1991, at the culmination of the period of testing, the experimental group's average scores on these three scales – Verbal, Perceptual-Performance and Motor – were good even when compared with the international standard. This is quite remarkable on a test not adapted in any way for this group. All three scores were more than one SD above the mean.

Control Group

In 1991, once again, the average scores for the experimental group (the TMP children) were higher, in all areas, than the scores for the control group. But these scores showed something else of importance about the TMP children's performance. For the control group scores were average. The mean score for the Perceptual-Performance scale was just below the scale mean. The Motor scale scores and the others were above the mean, but again by a small amount.

Differences

Diagrams 2 and 3 (p.14) detail the differences in performance between the two groups for the three test administrations. To more vividly portray the downward shift and then the subsequent reversal, the comparison between the 1989 and 1990 scores and between the 1990 and 1991 scores are done on separate diagrams.

The vertical bars in the figures demonstrate the difference between the scores obtained by the experimental group and

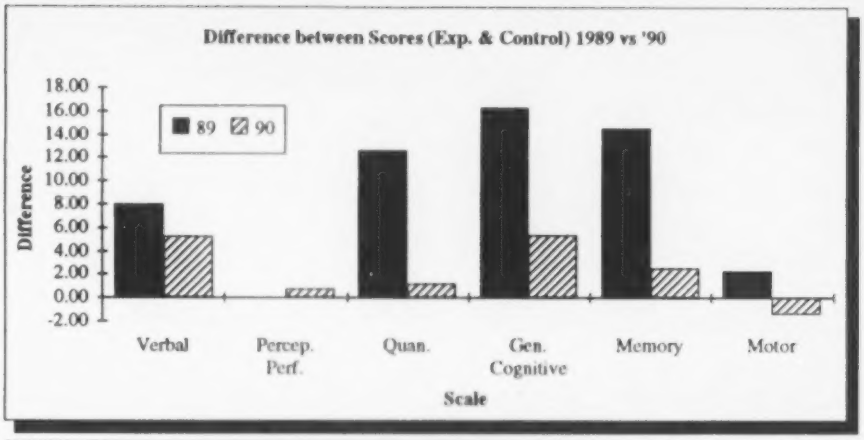


Diagram 2

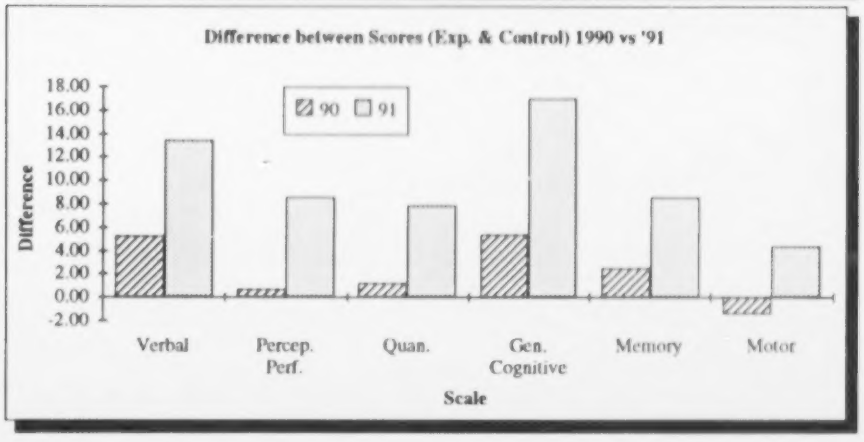


Diagram 3

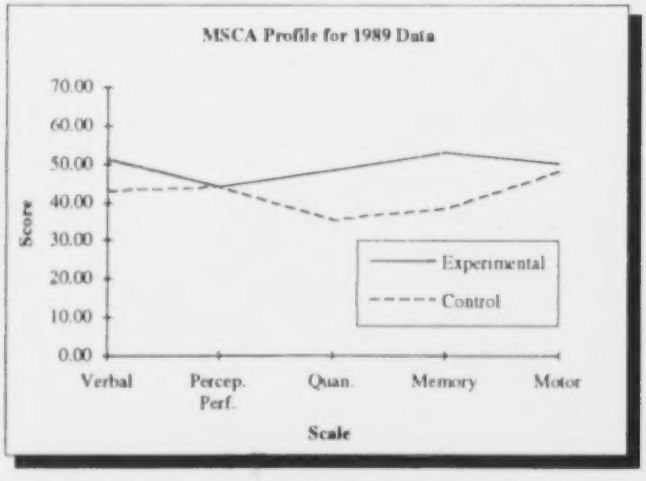
those obtained by the control group. Note the sharp drop in 1990 (diagonal shading) relative to 1989 (black). There is an equally sharp rise afterwards from 1990 (diagonal shading) to 1991 (gray).

(A bar extending below the line indicates that the control group actually got a higher score than the experimental group and the difference is therefore 'negative'.)

COMPARING THE EXPERIMENTAL AND CONTROL GROUPS

When the McCarthy scales were first used to test the children's performance in 1989, the differ-

Diagram 4



ence between experimental and control groups was marked. (See Diagram 4.) But results for 1990 (the year of the second testing) seem to indicate that after a year of basic school education the differences in performance between the experimental and control groups had shrunk, and the control group was performing much closer to the level of the experimental group.

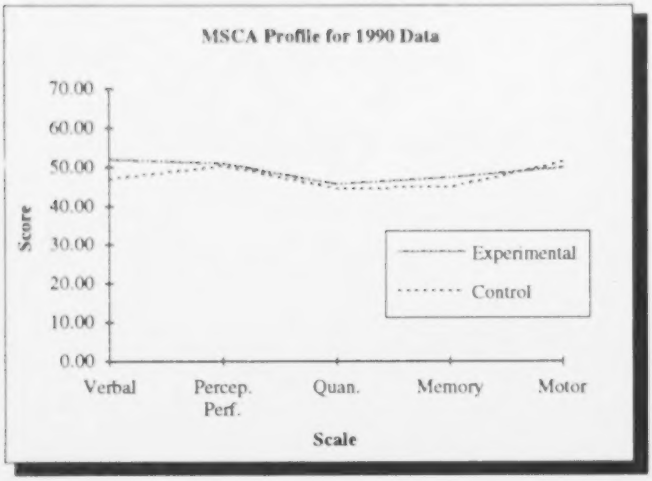
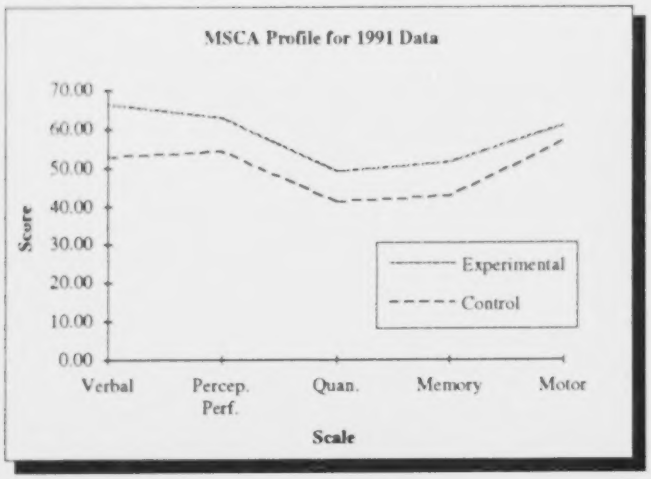


Diagram 5

The performance level at the 1990 testing was very similar for both groups in all areas except the Verbal scale, where there was a small difference (0.5 SD) between the average scores. (See Diagram 5.) Both groups scored at or near the mean in all areas. Lowest average scores for both groups were recorded on the Quantitative and Memory scales, where scores were about one half a SD below the mean. Differences between the scores of the two groups here, as in the other scales, were not statistically significant.

In the Memory and Quantitative scales, for example, where the experimental group had performed from 1 to 1.5 SD above the level of the control group in 1989, the 1990 results showed both groups performing at about the same level. It appeared, therefore, that the early gains which the experimental group had received from the TMP programme of early stimulation had to a large extent been lost. This was probably because of the radical adjustments they had to make as they began to attend a traditional school.

Diagram 6



The 1991 results were most heartening, however, as they showed that this trend had been

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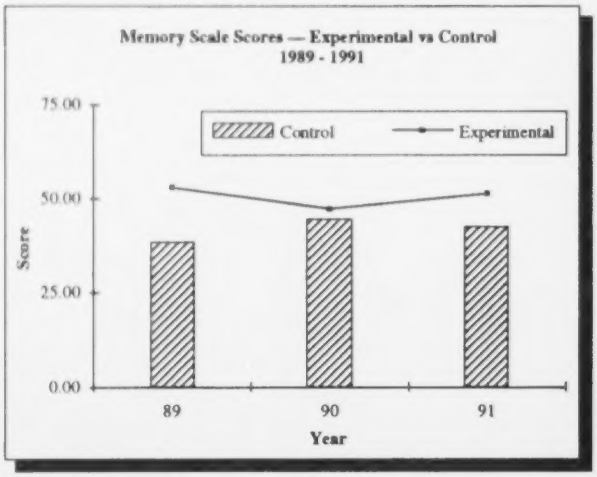
reversed. (See Diagram 6.) With both groups now in their second year of basic school education, the experimental group had regained the advantage and was performing at a significantly higher level than the control group. A closer look at performance on each of the scales reveals, on the micro-level, a similar pattern of receding gains followed by a rebound.

COMPARING THE RESULTS ON EACH OF THE SCALES

Diagram 7



Memory At the first testing in 1989, the widest difference (about 1.5 SD) between average scores for both groups was recorded in this area.[9] It seemed that the attention given to the experimental group had paid dividends. But although the control group had performed about 1.5 SD below the level of the experimental group in 1989, by 1990 the average score of both groups was about the same. But then in 1991, in the final testing, the most perceptible change between testings occurred in this area. Performance of the experimental group was better than that of the control group by almost one SD.

Quantitative Similar changes occurred here. In 1989 the experimental group had performed appreciably better than the control group. The difference on the standardized scale was greater than one SD. Although this is not quite statistically significant, it is close enough to invite conjecture that this difference could have been due to the programmes run for the children within the TMP. In 1990, on the other hand the two groups had similar scores. And then in 1991 the experimental group scores were almost one SD above those of the control group.

Motor & Perceptual Performance Results here on both scales, both high and low, were very similar from the beginning. The self-portraits were particularly poorly done in both groups, but this is probably because these children were so young. In succeeding years the average scores of the two groups contin-

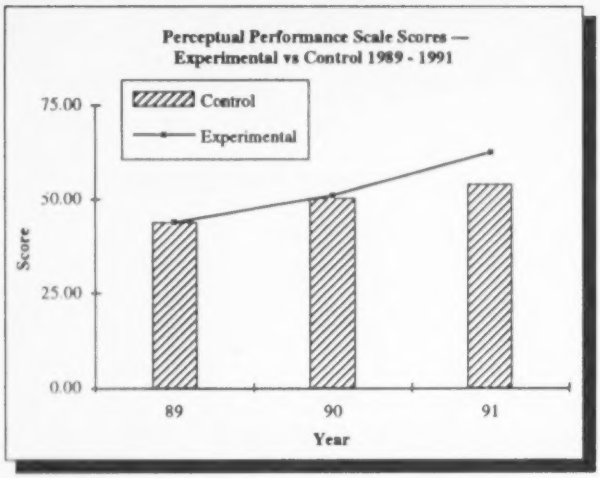


Diagram 8

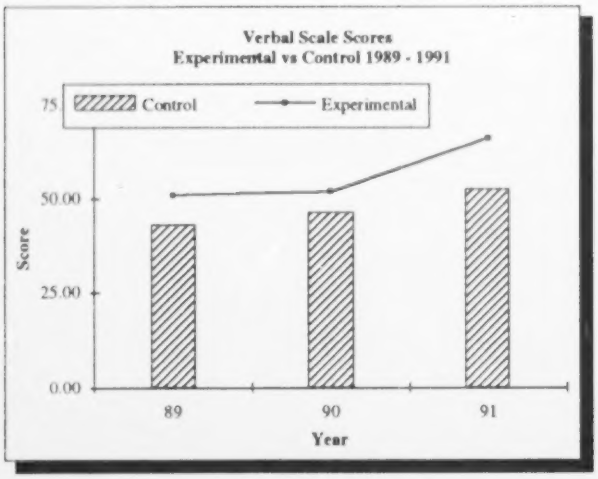


Diagram 9

ued to be very similar on the Motor scale. On this scale there was a difference of less than half an SD between the scores of the two groups. So although the experimental group score was higher in 1991, it could still be said that both groups were performing at the same level. However, the difference between the scores of the two groups on the Perceptual-Performance scale was notable in 1991, as the experimental group's average score was almost one SD above the score for the control group.

Verbal At the start there was a difference of between 0.5 and 1 SD in the average scores of the experimental and control groups. This was an area in which the superiority of the experimental group was expected to be very evident, but it proved not to be so. More interesting was the fact that there was a wide spread of scores. For *both* the experimental and the control group, the highest *and lowest* scores from all the scales were in this area. The children who performed poorly often refused to speak at all, or did so in halting broken sentences. Some, to avoid the stressful situation, fled the scene. It is probable then that in both groups there was a subset of children who viewed the unfamiliar activity with suspicion.

Although the performance level of the experimental group was a little higher than the control group in 1990, the difference between the two groups had diminished from the 1989 results. While in 1989 there was a difference of 0.5 to 1 SD between the average scores, in 1990 this was reduced to only 0.5 SD. The difference was much larger in 1991, when the experimental group had its highest average scores on this scale. Their score of 66.23 was almost 1.5 SD higher than the control group,

whose average scores in this area were just above the standardized mean.

The strong showing of TMP children on the Verbal scale in 1991 is one more persuasive sign, not only of the dramatic recovery in gains between 1990 and 1991, but also of how favourably their performance compares with that of all children.

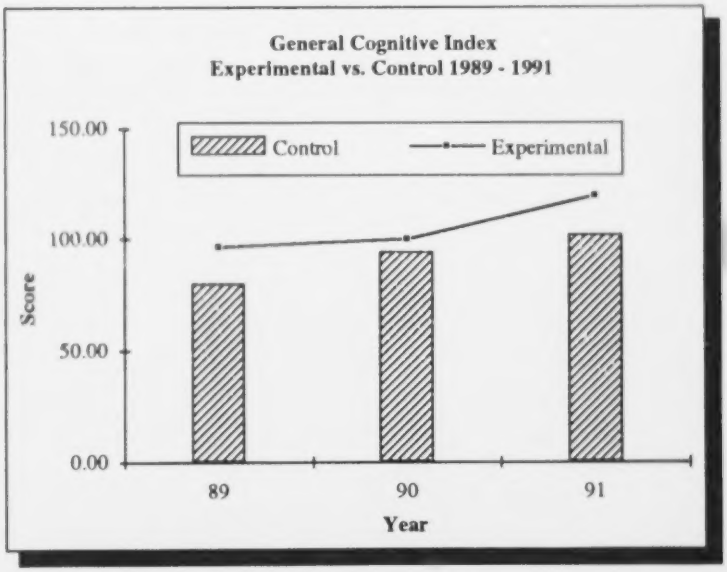
CONCLUSION

One story revealed by the MSCA testing is that the children under TMP care did much better than other children. It is heartening to see how well they performed, not only in comparison with the control group, but by any standard.

The established norms for the McCarthy Scales come from outside of the culture, and the test is not standardized or adapted to local populations.[10] This leaves the TMP children at a disadvantage, yet their performance still compares very favourably. By 1991 the performance of this TMP experimental group was equal to or better than United States norms in four of the five primary scales on the McCarthy test.

A second story is that, while the TMP children started off and ended up posting gains in performance over the control group, in the middle year of testing this advantage became much smaller. This was true on all the scales. The story of strong performance and steady progress, then, must be understood against the background story of the setback experienced by the TMP children when they encountered a new and different context and system of education.

Diagram 10



Today the story is one of steady gain after adjustment, and recovery from this setback. The third year of testing demonstrated that the TMP children had

begun once again to perform at a higher level than the control group. Recent qualitative information gathered through report cards and interviews with teachers, substantiate the completeness of this recovery, and detail some areas where their superior preparedness is most evident.

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RECENT FINDINGS – THE TMP CHILDREN TODAY

INTRODUCTION

Sustainability is a critical and most sought after component of intervention. Today it is especially gratifying to see that the gains of TMP children not only have survived the (often difficult) transition into public education, but also seem to have been maintained, for the most part, over the years. The research undertaken from 1989 to 1991 established this in the short term, but now there is further evidence to indicate that it may be true in the long term as well.

It was exciting enough in the early years at TMP to realize that this was a programme which resulted in gains in performance for the children of the teenage mothers, as well as benefitting the mothers themselves. Now, years later, TMP children continue to maintain the gains demonstrated earlier. When compared with other children in their classes almost all of them, in the opinion of their teachers, perform better. In some areas, such as 'verbal skills', they demonstrate particular strength.

The tables and charts below summarize teachers' responses to questions asking them to compare the TMP students to their peers, or to rate TMP students' performance on different attributes and in different settings.

METHOD

Special efforts of the TMP staff and the continuing excellent tracking mechanisms enabled location of all the TMP children from the original sample used in the studies done from 1989 to 1991. From their teachers we obtained data on performance of all of the children.

Trained TMP staff members were able to interview the teachers to get firsthand information on how the TMP children were performing in comparison to others in their class. Interviewers also secured quantifiable data on the teachers' ratings of their performance in different areas, in various contexts of learning and in general interaction at school.

For all this, the interviewers used a specially prepared interview schedule. To minimize the introduction of bias, great care was taken in the design of this schedule, and in the compilation of instructions to interviewers.

INSTRUMENT

The interview schedule has six questions.[11] Interviewers read these questions, along with their possible options, aloud to the teachers and then immediately record the responses on the schedules. The schedule questions are subsumed under three main areas – "A. Framework for Measuring All Around Development" (Question 1); "B. Comparative Assessment" (Questions 2 and 3); and "C. Scale Competencies" (Questions 4 to 6). Sections A and C both seek to refine and add more information to the findings.

Three of the questions, Questions 1, 2, and 4, ask the teachers to rate the students. The other three questions, Questions 3, 5 and 6, are open-ended questions which yield additional qualitative data on students' performance. Teachers are encouraged to make full responses to these three open-ended questions.

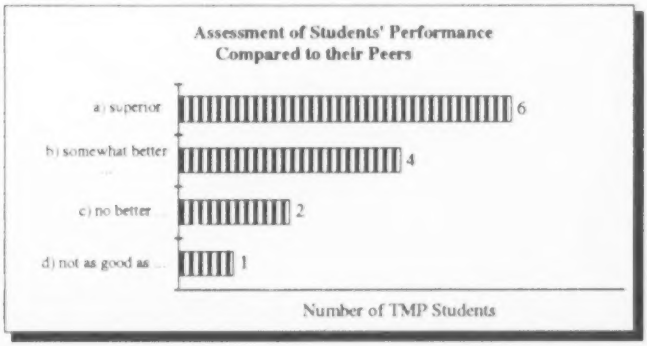
Question 1 asks the teacher to assess each child's performance in various settings on a three-point scale ranging from "Poor" through "Fair" to "Good". In this question children are evaluated on their performance during regular instruction and in more formal settings such as test taking, when working on their own, in social/recreational contexts, during group interaction, and any other setting that the teacher may suggest. Question 2 asks the teacher to rate the child's performance as *Superior to, Somewhat better than, No better than,* or *Not as good as his/her peers.* In Question 3 the teacher is asked to give specific reasons for his or her assessment in Question 2.

Question 4 contains a list of attributes commonly considered when evaluating a student's performance. Teachers are asked to rate the student's performance in these areas and then in Question 5 the teacher has to provide information about the child which illustrates his or her performance at the levels indicated in the responses to Question 4. Finally, Question 6 asks for any additional comments about the ratings that the teacher may want to make.

RESULTS

Comparing TMP children to their peers

Diagram 11



The key question in the schedule is Question 2. It seeks to determine whether TMP children are still better than their peers. This was the second question asked after the teacher had settled into the interview. It was introduced early enough to elicit a true "gestalt" response, and one not contaminated by the questioning process. Responses to this question reveal how TMP children are now seen as performing compared to their peers. Diagram 11 provides a visual representation of these results.

In nearly all cases their performance was viewed as "better," and in nearly half of the cases the rating was not just "better" but "superior". Specifically, the performance of 6 of the 13 children who were evaluated was described as "superior", while 4 were "somewhat better" than their peers. Two of the remaining 3 were deemed to be "no better" and only one child was "not as good as" his or her peers.

Performance of TMP children in different settings

Question 1 *(How good is this student's performance when observed in the following settings?)* really seeks to find out whether the children's performance was in any way influenced by context.

Table 2

Number of students performing at each level when observed in different settings

Setting	Level of Performance			
	Poor	Fair	Good	No Opinion
a	1	2	10	0
b	1	7	5	0
c	1	4	8	0
d	0	3	10	0
e	0	3	10	0

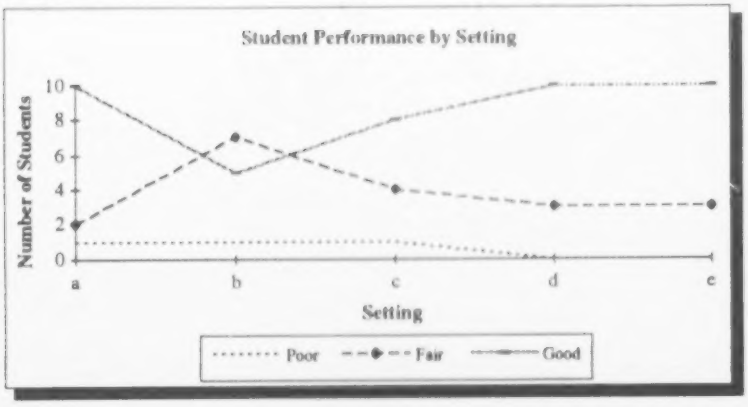
a) during regular instruction, b) in more formal settings (i.e., Test Taking), c) when working on his/her own, d) in social/recreational contexts, e) during group interaction

Although indication of a relationship by the data does not *establish* any influencing or causal connection, it could at least either eliminate this possibility, or spawn a hypothesis that such a connection did exist.

Are the TMP children weaker in formal settings? Do they thrive in social contexts during group interaction? Table 2 (facing page) presents the results.

TMP children perform well in every area. Only one student out of the 13 received a poor rating in any area. In 3 of the 5 areas, most of the students (10) received the highest rating of "Good". Well developed social skills would certainly result from the superior nurturing context of TMP, and the stimulation provided would give the children an advantage in the classroom.

Diagram 12



Consistent with that hypothesis too is the finding that the area in which the results are not as strong is that of their performance *"in more formal settings"* (area "b") – 7 got "Fair" and 5 "Good". The rigid contexts of the traditional classroom have always had a negative effect on TMP project children.

Performance of TMP children on different scale competencies

Question 4 contains a list of attributes commonly considered when evaluating a student's performance. These are read to the teacher, who is asked to rate the child's performance on each attribute.

This question seeks to refine the assessment of the recent performance of TMP children, by obtaining ratings in the specific areas of performance – verbal, social, memory etc. The rating scale used is from 1 to 5, with 1 being the lowest and 5 the highest.

These ratings are all very high, which speaks well for the performance of TMP children as a group. A particularly high average score was obtained for performance in the verbal area. This too would be explainable in terms of the difference that the TMP intervention made. From the very beginning care-givers in TMP were encouraged to talk to the children throughout each activity. This practice has been widely established as a significant factor in promoting verbal development.

TMP Students' Performance on Different Scale Competencies

Area of Performance	All Ratings	Average Rating
a	59	4.54
b	56	4.31
c	55	4.23
d	55	4.23
e	56	4.31
f	56	4.31

a) verbal skills, b) social skills, c) number skills, d) problem solving ability, e) memory, f) motor skills

Table 3

What shows TMP students' superiority

In Question 3 teachers were asked to explain the reasons for the comparative assessments of their students which they gave in Question 2.

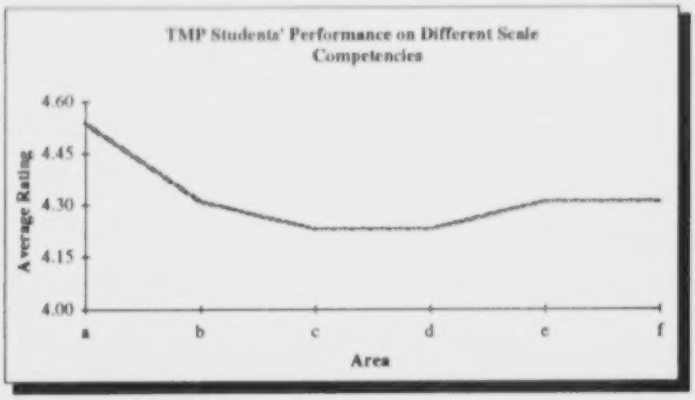


Diagram 13

They painted positive word pictures to support the "superior" ratings given to 6 of the children. One teacher commented that her student "shows much interest in his work," and another noted that her student was "able to master whatever work was given". Some teachers highlighted particular aspects of these children's work: "His vocabulary and knowledge is more advanced than that of his peers," commented one teacher, while another indicated that the student's "comprehension skill is high and he has good reasoning ability".

Teachers advanced different reasons for rating the TMP students as "somewhat better than" their peers. One teacher commented that the TMP student's "performance is above the level of 50% of the class," and another student's teacher stated that he "was able to master his work and was performing very well." One student was given this rating because "He worked hard and showed much interest in his work." Those two children receiving the rating of "no better than" their peers were simply

described by their teachers as "average," while only one TMP student was rated as "not as good as his or her peers".

Other comments from teachers

Like Question 3, responses to Questions 5 and 6 add explanatory qualitative information.

Question 5 asked the teachers to "tell us something about this child which illustrates performance at the levels" reported by the teachers in their response to Question 4. Teachers offered various explanations of why they gave children those ratings for the attributes.

Of three students receiving ratings in the lower end of the scale, two were categorized as "slow" by their teachers; the third, according to her teacher, "has the potential to work much harder".

Two students received the highest rating on all areas. One of these students was described as "overall... performing very well"; the teacher for the other student noted that he "was introduced to learning materials at an early age which helped him to develop all the skills needed for learning".

Four other students received mostly ratings of 5 (the highest). A teacher for one of these students indicated that because of his satisfactory performance he was promoted to a higher class, "from Grade 1C to Grade 2A". Another of these teachers concluded that his or her student's superior performance was due to the help received at home and the high level of interest that the student showed in her work.

"She is a very energetic student who participated readily in class," was the reason advanced for rating another student so highly. Another of the TMP students received such a high rating because "he rea-

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sons well and he is more aware of current happenings. His thinking capacity is not limited."

One student who received an equal number of 5 and 4 ratings was described as a "warm and friendly student who participated well in class". Two students had mostly ratings of 4, with one or two 5 ratings. Both were described by their teachers as having "consistently high performance" and being a "consistently hard worker". A third student who had all 4s (the second highest rating) was described as having "the potential [but] he just needs to settle down".

Question 6 asked for final explanatory comments. These focused on individual TMP children whose performance was not on par with the rest of the group, or who were outstanding for some special reason. For example, one teacher gave an explanation as to why the student mentioned above would not "settle down". In her response she said that his "home environment was not conducive to learning".

Another teacher took the opportunity to point out that her student needed corrective surgery for a physical problem. This was in no way a handicap and the student's performance was far better than that of his peers.

CONCLUSION

The data presented above offer further gratifying evidence to support the basic philosophy of the TMP day care programme – that early stimulation and a favourable learning environment (which extends from the Centre to the homes of the children through home visits) will provide young children with developmental advantages which will have long-term effects on their learning capabilities.

The MSCA profiles and the more recent research together present a rounded picture of the effect of the TMP day care experience on children. The first heartening aspect of this picture, as previously noted, is the sustainability of the gains, which survive even several years after entrance into the traditional education system.

The more recent research is also useful in that it evaluates the TMP children's performance through the voices of their teachers. Those teachers' comments which describe the positive attitudes to learning, strong interest and high motivation levels of the TMP children suggest that the benefits of the experience are more than just intellectual, that they affect other personality traits as well. Based on the overall picture presented, one may be justified in believing that the seeds of hope for breaking the cycle of generations of teenage pregnancy have been sown in the TMP day care programme.

NOTES

1 The Old Harbour project, which began in 1987, emerged out of a need for a location convenient for the increasing numbers of Old Harbour girls who were attending the May Pen site 11 miles away.

2 These results were discussed in *McCarthy Scales of Children's Abilities (MSCA) Report*, Bernard van Leer Foundation Teenage Mothers' Project. (1990).

3 These results were discussed in *Testing of Children's Abilities with the McCarthy Scales of Children's Abilities (MSCA)*, Bernard van Leer Foundation Teenage Mothers' Project (July 1992).

4 Paget, Kathleen D. (1985). Review of McCarthy Scales of Children's Abilities. *Ninth Mental Measurement Yearbook*, v. 1, p.922.

5 McCarthy, Dorothy. (1972). *McCarthy Scales of Children's Abilities*. (Manual), p.1. NY: Psychological Corp.

6 McCarthy, Dorothy. (1972). *McCarthy Scales of Children's Abilities*. (Manual). NY: Psychological Corp.

7 *McCarthy Scales of Children's Abilities (MSCA) Report* (1990), and *Testing of Children's Abilities with the McCarthy Scales of Children's Abilities (MSCA)* (July 1992), both by Bernard van Leer Foundation Teenage Mothers' Project.

8 Records of the children's raw scores on the MSCA are available from the CECE, UWI, Mona.

9 The hypothesis was not just that there would be a difference, but that the experimental group would score higher. That hypothesis would be more suitably tested by a 'one-tailed' test, and the difference would be significant then.

10 The McCarthy scales did, however, receive praise in reviews (in the *Mental Measurements Yearbook*) for performing very well when used with other cultural groups.

11 Further details on the contents of the interview schedule may be obtained from the CECE, UWI, Mona.

Teenage Mothers Project

Other resource material produced by the Teenage Mothers Project, Centre for Early Childhood Education, UWI, and the Bernard Van Leer Foundation:

- **Teenage Mothers Project: Testing of children's abilities with McCarthy Scales (MSCA).**
  Three reports: 1989, 1990, 1992.

- **Teenage Mothers Project: Evaluation of Schools' Counselling Programme**, 1990.

- **Teens Pregnancy** by Jennifer Knight Johnson, Joyce E. Jarrett, 1989.

- **The Care of the 0-3 Year Old Child** (a training video for daycare assistants), 1993.
  Sections: 1) Health and Hygiene; 2) Infant Care; 3) Toddler Care.

- **An Overview of TMP Programmes** (video), 1992.
  Sections: 1) Day Care; 2) Homebased Nurseries; 3) Old Harbour Programme; 4) Men's Responsibility Programme; 5) Skills Training; 6) Academic Training; 7) Home Visiting.

- **Teenage Mothers Project Old Harbour: An Innovative Approach**, 1993

- **Teenage Mothers Project: Breaking the Cycle**, 1994

These are available from:

Centre for Early Childhood Education
University of the West Indies
Mona, Kingston 7
Jamaica.
Telephone: (809) 927-2456

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